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Abstract. How far can a whole social routine be transformed after the restrictions imposed by the Covid-19 pandemic? It is possible that it has impacted human factors and ergonomics, such as sleep, physical activity, mental health and activities of daily living. It is necessary to focus on society currently, and to determine new forms of interaction in search of a better quality of life. The objective of this work is to determine the extent the restrictions imposed by the Covid-19 influenced human behavior in relation to style and quality of life, whether or not imposing new routines, and whether these, such as these, may impact the change of a society. To better understand the impact of the Covid-19 pandemic on society, human factors variables were raised, and a survey study, where several people were able to answer and share their experiences in the midst of the restrictions of the pandemic when answering an online questionnaire. The research seeks by asking questions to the target audience on variables related to the home environment, employment situation, work routine and health in general. In addition, the research explores symptoms of depression and anxiety, as well as sleep, wakefulness, and physical activity levels. There is a need for a new direction in research to monitor the changes across society, seeking a vision of a new society, which emerges in the face of a disruptive period, which impacts the entire planet.

Keywords: Covid-19, Lifestyle, Quality of Life, Human Factors

1 Introduction

The effects of the Covid-19 are reflected in several areas of society [1]. It is necessary to focus on society and determine new forms of interaction in search of a better quality of life. The Covid-19 Pandemic consequences may have impacted human factors, such as sleep, physical activity, mental health, and daily living activities. These factors have

already been seen in research with children [2], mental health [3], and eating habits [4].

The restrictions imposed on society to minimize and mitigate the effects of Covid-19 led to a reduction in social interactions, such as physical distance and changing routines, such as access to work, commerce, and services [5].

These changes may also have influenced certain aspects of our quality of life, such as well-being, sleep, meal times, and even human motivation and employability. These aspects can contain drastic changes, and they can even be irreversible in human factors [6]. People are implementing new routines in a new normal. We still don't know if the changes will be useful, or if people will one day be able to go back to how they were before.

This paper aims to determine how the extent of the restrictions imposed by the Covid-19 pandemic influenced human behavior about lifestyle, and the impact in the way of society, especially in the Brazilian population.

To better understand the impact of the Covid-19 pandemic on Brazilian society, human factors related to the quality of life, lifestyle, and daily routines were raised. A survey type study was carried out [7], where several people were able to answer and share their experiences amid the pandemic restrictions by answering an online questionnaire.

By examining the interactions between changes in human factors resulting from social constraints, such as those imposed by the Covid-19 pandemic, one can predict states of anxiety, depression, or a better lifestyle.

The research seeks questions through variables related to the home environment, employment situation, work routine, and health in general. The study also explores symptoms of depression and anxiety and sleep behavior, wakefulness, and physical activity levels.

2 Methodology

The research was carried out through the collection of quantitative data over the web. The research method used was the internet-based survey [7], non-probabilistic procedures [8], convenience sampling [9], conducted by the snowball method.

This form has the advantages of being able to be developed with low or no cost, applied in a faster and more efficient way, with a readily available sample, fewer rules to follow, and with a better capacity of distinction and analysis of variables due to the use of direct quantitative data, in addition to being applied in a larger geographic area.

The main disadvantage is that the return rate is low, between 5 to 20% of those who receive the access link. The fear can explain it that many people have when clicking on a link they are unaware of, by the fear of containing some malicious file, which could steal data or damage the computer. It is also possible to refuse to answer without anyone knowing.

It is a cross-sectional survey, as it includes a population section encompassing respondents to an online questionnaire developed on Google Forms. The average time to answer the questionnaire was based on a pilot test with a group of people who responded in an average time of twelve minutes.

The questionnaire was sent through an access link in social networks and contacts, who asked the respondents to disclose it. The return was 45 questionnaires.

At the beginning of the questionnaire, they accept the researchers' protocol to obtain if they intend to spontaneously answer the survey in a free and informed consent term. This term follows the ethics protocols of the National Research Ethics Commission in Brazil. Although there is this consent, it is not necessary to identify the respondent.

The elaboration of the questions involved questions from a questionnaire designed to be used in the BRICS ergonomics network, being adapted in each of the countries. Questionnaires are often used interchangeably in various surveys[10].

The questionnaire was adapted for use in Brazil with two sessions. A session is a general presentation with questions containing the age group, gender, city, state, and occupation. The second session relates to lifestyle, physical health, mental health, social relationships, work, routines, food, leisure and sleep. The survey was conducted between November and December 2020.

The research submits variables answered in two scenarios: (1) Before the restrictions imposed by the pandemic, referring to the three months before we entered into social rules and closing of trade in general (i.e., January, February, and March 2020), and (2) During social and commercial restrictions, which refer to the period after the previous scenario (April to September 2020). The differences are apparent in Brazilian society's behavior when buying more online, but they also pointed out several problems.

3 Results

Table 1 shows the age group's relationship, emphasizing the age group from 36 to 45 years old, with 37.8% of the total. The predominance of responses is female, with 62.2% of the total respondents.

Table 1. Respondents' age range.

Age	% of Total	Cumulative %
26-35 yo	22.2 %	22.2%
36-45 yo	37.8 %	60.0%
46-55 yo	22.2 %	82.2%
56-65 yo	15.6 %	97.8%
66 yo or more	02.2 %	100 %

Among Brazilian states, 42.2% live in the state of Rio de Janeiro, 28.9% in the state of São Paulo, and 13.3% in the state of Paraná. The rest are distributed among 7 other states. Regarding occupation, 28.8% of respondents work with education, 22.2% in service provision, 13.3% are students and 8.9% work from home.

Regarding how many people live in the same house, Figure 1 shows that the vast majority live alone (36.4%) or between 2 to 4 people.

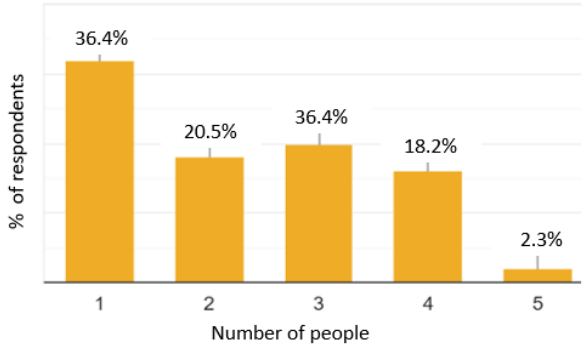

Fig. 1. The number of people in the same house.

Analyzing people's feelings about the danger of Covid-19, the results showed that 37.8% think the virus is dangerous and prefer to stay at home. However, 20% also like to stay at home, but cannot because of work. For 42.2%, the coronavirus is not so dangerous, and with some security measures, one can lead life normally.

Most bother the great majority is the distancing from the family (66.7%) and not being with friends (51.1%). Staying at home and the commerce restrictions with the closing of stores bothered 22.2% in each of these variables since 53.3% of people worked in the home office during the pandemic, 22.2% work by going to the company only essential, predominantly in the home office. Only 13.3% were forced to go to the company every day.

Comparing the working hours per day before and after the pandemic, Figure 2 shows an apparent increase in the number of hours worked. What previously prevailed between 8 to 10 hours of work per day has now been more than 10 hours.

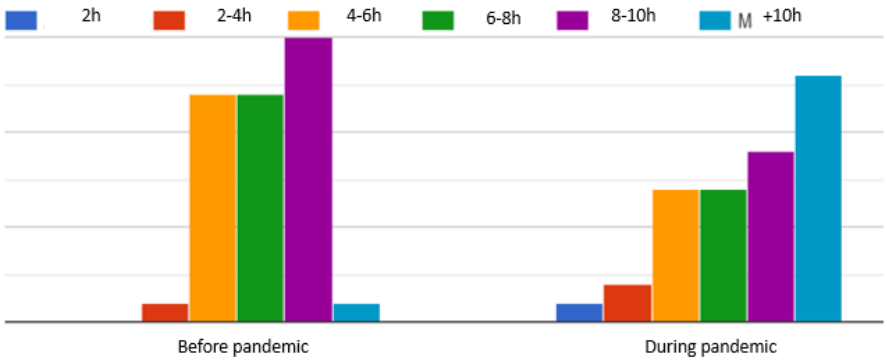

Fig. 2. The number of hours of work per day, before and during the pandemic.

It also changed working hours for 52.4% of people. Figure 3 shows a more significant change in night work, especially at night and in the morning. Regarding the waking time, no differences were noticed.

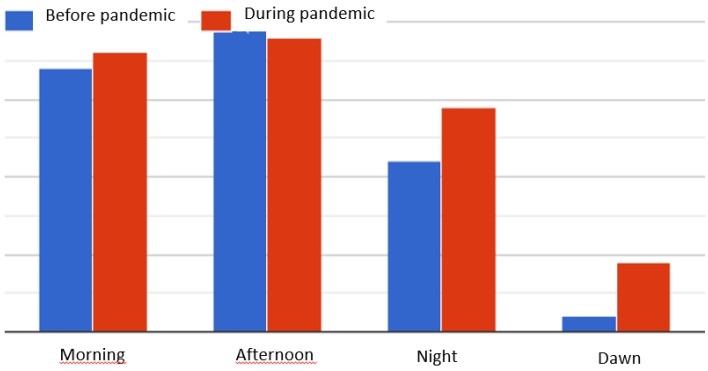

Fig. 3. Work shifts before and after the pandemic.

Leisure activities had a significant impact, with a reduction of 52.2% in outdoor or gym sports, 39% in shopping, and 100% in leisure travel. The increase was seen in watching television and surfing the internet, both with a rise of 25%.

Before the pandemic, the most affected performance issues were waking up, frequent stops at work, and inadequate meals. During the pandemic, the primary references to low productivity were reported to night work, shift shifts, workload, uneven distribution of tasks, and especially the insecurity in being fired, which increased by 700% among respondents.

Another factor that was changed was the number of daily meals, where there were people who answered 5 meals a day, and those who eat all the time. These answers were not found in the questionnaire regarding the period before the pandemic.

These changes reflected some problems, with increased responses regarding decreased mood, restlessness, and agitation, eating disorders, sadness, loneliness, increased consumption of alcohol, tobacco, and drugs, in addition to anxiety, depression, and negative thoughts. These increased values ranged from 300% to 700%.

The condition noted as positive by the respondents was that they became more concerned with themselves (an increase of 500%), the improvement of empathy and patience (both with a 30% increase).

In addition to emotional factors, physical factors were also found. Among them, the biggest was the increase in appetite (2100%), muscle pain (250%), and others with gains more significant than 100%, such as hair loss, change in desire or sexual response, changes in the menstrual cycle, headaches, vision problems, weight gain, and increased blood pressure.

The cognitive system was also affected. Difficulty concentrating was reported with a 100% increase and cases not reported before the pandemic emerged, such as disorientation and mental confusion, in addition to the problem of stopping thinking about unpleasant incidents or situations.

According to those who answered the survey, the leading causes of physical and mental discomfort were social isolation. The usual causes of stress are the fear of losing their job to 66.7% of people, and the concern with family members and the family health, with 44.4% in each variable. On a Likert scale, from 0 to 10, with zero

being unable to deal with these problems, 10 being able to deal with these problems and overcome this phase is shown in Figure 4.

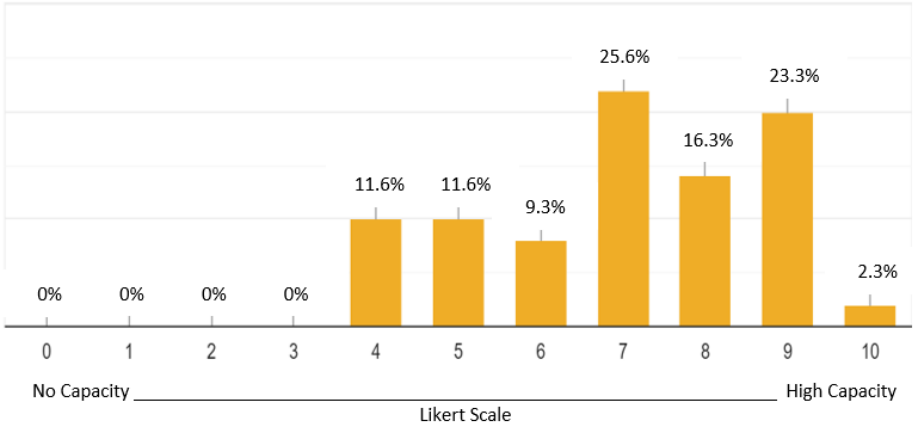

Fig. 4. Individual ability to solve problems

Concerning points noted in the responses were that 7% of people divorced, 45.5% have not rested well, 56.8% work more than before, and 10% seek medical treatment more often. Positive points were noticed in no job loss among the respondents, and 60% reported spending more time with the family, enjoying the benefits of this. In people who work seated, those who exercised home office said a decrease in time in the sitting posture since the domestic environment allows a better postural alteration.

4 Discussion

The differences are apparent in terms of quality of life and behavior of Brazilian society, with positive and negative points.

Among the 27 Brazilian states, the research did not reach 17 states, which brings the need to expand the databases or change how they are collected in the study's progress.

The list of people living alone (36.4%) may explain some of the answers where loneliness, negative thoughts, and the sadness of social isolation were evident since they are far from their families, with restrictions on trade and leisure being imposed across the country.

People's feeling about the danger of Covid-19 was not so significant, as less than half considered Covid-19 dangerous, a situation that goes against the principles of health and safety preservation discussed worldwide.

Working from home in a home office model seems to be the majority's preference, but although they think the virus is not so severe, most people suffer from the fear of losing the job, family, and health.

Working from home also impacts the workload, differently from what people thought. Changes in meal times and rest are added, and leisure hours are consumed, making the relationship that was once dreamed of harms people's health.

People started to eat more, sleep less, be more dispersed in thoughts, show signs of anxiety and depression. Although we have realized the advantage of staying less time in the sitting position in the home office than in the company, it is not suitable for administrative functions.

Staying more at home also caused some people to have more family friction, but this is a point to be investigated in other surveys more specifically, as the 7% divorce rate can be considered normal.

What must be eliminated in any way is the poor distribution of work, excessive hours, and negative thoughts, such as fear of losing a job, health, family, and friends. These factors can lead to a more mental than physical illness, which becomes worrying.

5 Conclusion

Although it is a small sample size, it is possible to see that the consequences of the Covid-19 pandemic changed the behavior of Brazilians and impacted their quality of life.

The changes perceived in this research may point to constant concerns and fears that can have consequences such as anxiety, depression, and panic. The reaction to these problems will depend on each one, as it influences biopsychological factors. However, if the changes were not inserted in the workload that needs to decrease and the hours of rest that need to increase, everything will become a big problem.

It is time to look at how we can organize our work and lifestyle ourselves and realize the values that we are putting ahead of our lives. If it is so problematic to stay at home, with the home office, to be with the family, something is wrong. It's time to rethink what the priorities are and reorganize ourselves.

An analysis of tasks and activities, from the perspective of ergonomics in the organization of work, can reflect benefits and change this excess scenario. The fear of losing a job, health, and family members, on the other hand, should make us recall that we must adopt these actions and keep ourselves safer. Only then will we live better and be productive.

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